

CLAIMS

Having thus described the aforementioned invention, we claim:

1 1. A cabinet for enclosing a controller, said controller being subject to
2 arcing, which produces arc gasses, said cabinet comprising:

3 a plurality of walls enclosing said controller;

4 a roof panel connected to said plurality of walls;

5 an exhaust vent for discharging built up gasses generated during an arc
6 fault event;

7 a floor panel connected to said plurality of walls; and

8 a door for accessing said controller and maintaining integrity of said
9 cabinet during said arc fault event.

1 2. The cabinet of Claim 1 further comprising:

2 a first dimple in a first surface selected from one of said roof panel, said
3 floor panel, one of said plurality of walls, and a structural member; and

4 a second dimple in a second surface selected from one of said roof panel,
5 said floor panel, one of said plurality of walls, and said structural member, said
6 second dimple adapted to mate with said first dimple, said first dimple secured
7 to said second dimple.

1 3. The cabinet of Claim 2 further comprising

2 a first opening in said first surface and disposed adjacent to said first
3 dimple;

4 a second opening in said second surface and in register with said first
5 opening when said first dimple is mated with said second dimple; and

6 a fastener disposed in said first opening and said second opening, said
7 fastener securely mating said first and second dimples.

1 4. The cabinet of Claim 1 further comprising a baffle for isolating a
2 first volume of said cabinet from a second volume of said cabinet, said baffle
3 connected to at least two of said plurality of walls.

1 5. The cabinet of Claim 1 further comprising a flap covering said
2 exhaust vent, said flap adapted to open and allow said arc gasses to escape.

1 6. The cabinet of Claim 5 further comprising a hinge connecting said
2 flap to said cabinet.

1 7. The cabinet of Claim 1 further comprising:
2 a first member disposed parallel to one of said plurality of walls;
3 a second member connecting said first member to said one of said
4 plurality of walls;
5 a hinge connecting said door to one of said first member, said second
6 member, and said one of said plurality of walls;
7 a channel attached to said door and extending over said hinge, said
8 channel adapted for receiving an edge of said first member, said edge opposite
9 said second member; and
10 a resilient seal disposed between said edge and said channel.

1 8. The cabinet of Claim 7 further comprising a latching mechanism
2 for releasably securing said door in a closed position, said latch mechanism
3 including a plurality of latch hooks and a strike assembly receiving said
4 plurality of latch hooks such that said door remains sealed during said arcing.

1 9. The cabinet of Claim 1 further comprising:
2 an opening bounded by a wall edge of one of said plurality of walls;

3 an access panel having a first surface and a first panel edge with a
4 protruding member extending toward said wall edge; and

5 a resilient seal disposed between said first surface of said access panel
6 and said wall edge.

1 10. The cabinet of Claim 1 further comprising:

2 an opening bounded by a first edge of one of said plurality of walls and by
3 a second edge of another one of said plurality of walls;

4 an access panel having a first surface, a first panel edge with a first
5 protruding member extending toward said first edge, and a second panel edge
6 with a second protruding member extending toward said second edge,

7 a first resilient seal disposed between said first surface of said access
8 panel and said first edge; and

9 a second resilient seal disposed between said second surface of said
10 access panel and said second edge.

1 11. A cabinet for enclosing a controller, said controller being subject to
2 arcing, which produces arc gasses, said cabinet comprising:

3 a plurality of walls enclosing said controller;

4 a roof panel connected to said plurality of walls;

5 a floor panel connected to said plurality of walls;

6 an exhaust vent for discharging said arc gasses;

7 a flap covering said exhaust vent, said flap adapted to open and allow
8 said arc gasses to escape;

9 a hinge connecting said flap to said cabinet;

10 a door for accessing said controller;

11 a latching mechanism for releasably securing said door in a closed
12 position, said latch mechanism including a plurality of latch hooks and a strike
13 assembly receiving said plurality of latch hooks such that said door remains
14 sealed during said arcing;

15 a first member disposed parallel to one of said plurality of walls;

16 a second member connecting said first member to said one of said
17 plurality of walls;

18 a hinge connecting said door to one of said first member, said second
19 member, and said one of said plurality of walls;

20 a channel attached to said door and extending over said hinge, said
21 channel adapted for receiving an edge of said first member; and

22 a resilient door seal disposed between said edge and said channel.

1 12. The cabinet of Claim 11 further comprising:

2 an opening bounded by a first edge of one of said plurality of walls and by
3 a second edge of another one of said plurality of walls;

4 an access panel having a first surface, a first panel edge with a first
5 protruding member extending toward said first edge, and a second panel edge
6 with a second protruding member extending toward said second edge,

7 a first resilient seal disposed between said first surface of said access
8 panel and said first edge; and

9 a second resilient seal disposed between said second surface of said
10 access panel and said second edge.

1 13. The cabinet of Claim 11 further comprising:

2 a first dimple in a first surface selected from one of said roof panel, said
3 floor panel, one of said plurality of walls, and a structural member; and

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4 a second dimple in a second surface selected from one of said roof panel,
5 said floor panel, one of said plurality of walls, and said structural member, said
6 second dimple adapted to mate with said first dimple.

1 14. The cabinet of Claim 13 further comprising:

2 a first opening in said first surface and disposed adjacent to said first
3 dimple;

4 a second opening in said second surface and in register with said first
5 opening when said first dimple is mated with said second dimple; and

6 a fastener disposed in said first opening and said second opening, said
7 fastener securely mating said first and second dimples.

1 15. The cabinet of Claim 11 further comprising a baffle for isolating a
2 first volume of said cabinet from a second volume of said cabinet, said baffle
3 connected to at least two of said plurality of walls.

1 16. A cabinet for enclosing a controller, said controller being subject to
2 arcing, which produces arc gasses, said cabinet comprising:

3 a plurality of walls enclosing said controller;

4 an opening bounded by a first edge of one of said plurality of walls and by
5 a second edge of another one of said plurality of walls;

6 an access panel having a first surface, a first panel edge with a first
7 protruding member extending toward said first edge, and a second panel edge
8 with a second protruding member extending toward said second edge,

9 a first resilient seal disposed between said first surface of said access
10 panel and said first edge; and

11 a second resilient seal disposed between said second surface of said
12 access panel and said second edge.

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1 17. A cabinet for enclosing a controller, said controller being subject to
2 arcing, which produces arc gasses, said cabinet comprising:

3 a door for accessing said controller, said door including
4 a latching mechanism for releasably securing said door in a closed
5 position, said latch mechanism including a plurality of latch hooks and a strike
6 assembly receiving said plurality of latch hooks such that said door remains
7 sealed during said arcing;

8 a first member disposed parallel to one of said plurality of walls;

9 a second member connecting said first member to said one of said
10 plurality of walls;

11 a hinge connecting said door to one of said first member, said second
12 member, and said one of said plurality of walls;

13 a channel attached to said door and extending over said hinge, said
14 channel adapted for receiving an edge of said first member; and

15 a resilient door seal disposed in said channel for sealing a gap between
16 said edge and said channel.

1 18. A cabinet for enclosing a controller, said controller being subject to
2 arcing, said cabinet comprising:

3 a plurality of members supporting a plurality of components in said
4 controller and including a first member and a second member;

5 a first dimple formed in said first member; and

6 a second dimple formed in said second member and cooperating with
7 said first dimple.

1 19. The cabinet of Claim 18 further comprising

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2 a first opening in said first member and disposed adjacent to said first
3 dimple;

4 a second opening in said second member and in register with said first
5 opening when said first dimple is mated with said second dimple; and

6 a fastener disposed in said first opening and said second opening, said
7 fastener securing said first dimple to said second dimple.

1 20. A cabinet for enclosing a controller, said controller being subject to
2 arcing, which produces arc gasses, said cabinet comprising:

3 a plurality of walls enclosing said controller;

4 a baffle for isolating a first volume of said cabinet from a second volume
5 of said cabinet, said baffle connected to at least two of said plurality of walls,
6 said first volume containing said arc gasses.

1 21. The cabinet of Claim 20 further comprising:

2 a first dimple in one of said plurality of walls; and

3 a second dimple in said baffle, said second dimple adapted to mate with
4 said first dimple.

1 22. The cabinet of Claim 21 further comprising

2 a first opening in said one of said plurality of walls and disposed adjacent
3 to said first dimple;

4 a second opening in said baffle and in register with said first opening
5 when said first dimple is mated with said second dimple; and

6 a fastener disposed in said first opening and said second opening, said
7 fastener securing said first dimple to said second dimple.

1 23. A cabinet for enclosing a controller, said controller being subject to
2 arcing, which produces arc gasses, said cabinet comprising:

3 a means for enclosing said controller;

4 a means for accessing said controller through a door;

5 a means for sealing said door to prevent the release of said arc gasses
6 from inside said cabinet;

7 a means for securing said door.

1 24. The cabinet of Claim 23 further comprising a means for venting
2 said arc gasses from inside said cabinet.

1 25. The cabinet of Claim 23 further comprising a means for accessing
2 said cabinet through a removable panel.

1 26. The cabinet of Claim 23 further comprising a means for connecting
2 a pair of surfaces of said cabinet.

1 27. The cabinet of Claim 23 further comprising a means for isolating a
2 first volume of said cabinet from a second volume of said cabinet.